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BEFORE THE BOARD OF PATENT APPEALS AND INTERFERENCES

Paper No. 31

Application Number: 09/520,032
Filing Date: March 06, 2000
Appellant(s): HOOPMAN ET AL.

Ann M. Mueting
For Appellant

EXAMINER'S ANSWER

This is in response to the appeal brief filed October 10, 2002.

(1) Real Party in Interest

A statement identifying the real party in interest is contained in the brief.

(2) Related Appeals and Interferences

The appellant's statement that there are no appeals or interferences known to appellant's representatives which will directly affect or be directly affected by or have a bearing on the decision in the pending appeal is contained in the brief. Note that U.S Application No. 09/955,604, which is a continuation of this application, is currently also on appeal to the Board of Patent Appeals and Interferences.

(3) Status of Claims

The statement of the status of the claims contained in the brief is correct.

(4) Status of Amendments After Final

The appellant's statement of the status of amendments after final rejection contained in the brief is incorrect.

The amendment after final rejection filed concurrently with the Appeal Brief on October 10, 2002 has been entered.

(5) Summary of Invention

The summary of invention contained in the brief is correct.

(6) Issues

The appellant's statement of the issues in the brief is substantially correct. However, one further issue is missing.

The changes are as follows: addition of the following fifth issue to the four issues already listed.

5. Whether claims 17, 20, 21, 25-28, 33-54, 94-96 and 98-111 are properly provisionally rejected under the judicially created doctrine of obviousness-type double patenting as being unpatentable over claims 23, 24, 30-32, 89, 90, 92, 93 and 133-148 of copending Application No. 09/955,604.

(7) Grouping of Claims

The appellant's statement that claims 17, 20, 21, 25-28, 33-54, 94-96 and 98-111 stand or fall together is acknowledged.

(8) Claims Appealed

The copy of the appealed claims contained in the Appendix to the brief is substantially correct.

A substantially correct copy of appealed claim 104 appears on page A-13 of the Appendix I to the appellant's brief. The minor error is as follows: in line 3 of claim 104, "bas" should be --base--.

(9) Prior Art of Record

3,312,583	Rochlis	4-1967

(10) Grounds of Rejection

The following ground(s) of rejection are applicable to the appealed claims:

Claims 25-28 and 94-96 stand rejected under 35 U.S.C. 102(b) as being anticipated by Rochlis(-583). Rochlis(-583: figs. 21 and 22) teaches a production tool suitable for use in manufacturing an abrasive article (col. 1, lines 50-56) which includes a plurality of cavities having geometric shapes, angles and dimensions. At least two of the cavities have different angles. Note that 9 cavities are shown with a first plurality of rectangular cavities, a second plurality of circular cavities, and a third plurality of triangular cavities defining 20 pairs of adjacent cavities, wherein 14 of the pairs of adjacent cavities have at least one dimension, such as base edge lengths, which is different between the two cavities of the pair of the adjacent cavities. Thus, 70% of the pairs of adjacent cavities have at least one dimension which is different between the two cavities of the pair. Each of the cavities has a single opening.

Claims 20, 21, 33, 34, 36-45, 47-54, 98, 99, 101-106 and 108-111 stand rejected under 35 U.S.C. 102(b) as being anticipated by Rochlis(-583). Rochlis(-583) teaches a production tool suitable for use in manufacturing an abrasive article (col. 1, lines 50-56) which includes a plurality of three dimensional cavities having different geometric shapes, angles and dimensions. Note that some of the shapes have at

least four planar surfaces wherein adjacent planar surfaces of one cavity meet at an edge to define an angle of intersection therebetween (see figures). The cavities can have different sizes (col. 2, lines 66-70; col. 6, lines 17-22; col. 9, line 61, to col. 10, line 52; col. 13, lines 62-66). The shapes of the cavities can be different (col. 3, lines 25-29; col. 6, lines 17-22; col. 11, lines 56-66; col. 11, line 75, to col. 12, line 4; col. 13, lines 29-35 and 62-66; figs. 21 and 22). The production tool can be a coating roll (fig. 19) or an etched (engraved) metal roll (col. 3, lines 52-63; col. 13, lines 15-17 and 62-67). The production tool can have 9 cavities as shown in figs. 21 and 22 with a first plurality of rectangular cavities, a second plurality of circular cavities, and a third plurality of triangular cavities defining 20 pairs of adjacent cavities, wherein 14 of the pairs of adjacent cavities have at least one dimension, such as base edge lengths, which is different between the two cavities of the pair of adjacent cavities. Thus, 70% of the pairs of adjacent cavities have at least one dimension which is different between the two cavities of the pair of adjacent cavities. At least one of the angles or base edge lengths of the first plurality is different from all the angles or base edge lengths of the second plurality and of the third plurality. At least one of the angles or base edge lengths of the second

plurality is different from all the angles or base edge lengths of the first plurality and of the third plurality. Each of the cavities has a single opening. Furthermore, Rochlis(-583: col. 3, lines 40-46) discloses that "most embodiments" permit air or other evolved gas to escape, and Rochlis(-583: col. 13, lines 70-75) discloses that evolved air or gas "may" escape between mating surfaces of the laminated layers. Thus, in the embodiments (in opposition to "most embodiments") where there are no openings to permit air or other evolved gas to escape, each cavity has a single opening.

Claims 17, 20, 21, 33-54 and 98-111 stand rejected under 35 U.S.C. 103(a) as being unpatentable over Rochlis(-583). As to claims 20, 21, 33, 34, 36-45, 47-54, 98, 99, 101-106 and 108-111, the 102 rejection above is based upon the interpretation of the alternatives for the production tool disclosed by Rochlis(-583) as being anticipatory. If appellants believe that the disclosed alternatives are NOT anticipatory, then it would have been obvious to one of ordinary skill in the art, at the time the invention was made, to modify the production tool of Rochlis(-583) with the alternatives disclosed by Rochlis(-583) because Rochlis(-583) explicitly discloses that the production tool can be modified with such disclosed alternatives. As to claim 17, Rochlis(-583) does not disclose the cavities having a

material-included angle with a value from 20 to 90 degrees. Note that Rochlis(-583) discloses that the cavities can have different shapes, as mentioned above, including pyramidal shapes (col. 13, lines 51-58). As to claims 35, 46, 100 and 107, Rochlis(-583) discloses a production tool having 3 different types of cavities defining three pluralities or groups of cavities (figs. 21 and 22), but does NOT explicitly disclose a fourth plurality or group of cavities having a fourth different type of cavity. However, Rochlis(-583) discloses that the production tool can have cavities of different types, different sizes and different shapes, as mentioned above. Therefore, it would have been obvious to one of ordinary skill in the art, at the time the invention was made, to modify the cavities of Rochlis(-583) to have a material-included angle with a value from 20 to 90 degrees because changing such an angle would change product angles and because such an angle would have been found due to routine engineering in finding operable parameters (angles) for the apparatus and/or in optimizing the apparatus to make products with such an angle, In re Aller, 105 USPQ 233 and/or because Rochlis(-583) discloses that the cavities can be of different sizes and shapes, or to modify the production tool to have four pluralities or group of cavities having four different types of cavity because Rochlis(-583) discloses that

the production tool can have a plurality of different types of cavities and/or because Rochlis(-583: figs. 21 and 22) discloses a production tool example having not just two but three pluralities or groups of cavities having three different types of cavities (i.e., that a tool can have a plural number of groups of cavities having different types of cavities to produce a plural number of groups of products having different types of products).

Claims 17, 20, 21, 25-28, 33-54, 94-96 and 98-111 stand rejected under 35 U.S.C. 103(a) as being unpatentable over Rochlis(-583). Rochlis(-583) is applied as mentioned above. Furthermore, if appellants' intended a single opening to mean that the mold is a continuous integral mold with multiple, spaced, single openings, one cavity being defined by a single opening, then this rejection applies. Rochlis(-583) discloses the apparatus substantially as claimed and is applied as mentioned above. The production tool, such as in figs. 21 and 22, is a laminate mold composed of layers. It would have been obvious to one of ordinary skill in the art, at the time the invention was made, to modify the mold to be integral (i.e., to be integral with no layers) because generally there is no invention in making integral that which was before in several parts, In re Lockhart, 90 USPQ 214. See also In re Larson, 144

USPQ 347. Note that that all the embodiments of Rochlis(-583: col. 3, lines 40-46; col. 13, lines 70-75) do NOT require openings between the layers for venting, and thus such openings between the layers are not required or critical for the operation of the apparatus.

Claims 17, 20, 21, 25-28, 33-54, 94-96 and 98-111 stand provisionally rejected under the judicially created doctrine of obviousness-type double patenting as being unpatentable over claims 23, 24, 30-32, 89, 90, 92, 93 and 133-148 of copending Application No. 09/955,604. Although the conflicting claims are not identical, they are not patentably distinct from each other because it would be obvious to one of ordinary skill in the art at the time the invention was made to modify the apparatus of claims 23, 24, 30-32, 89, 90, 92, 93 and 133-148 of copending Application No. 09/955,604 such that each cavity has a single (integral) opening because it is well within the artisan of ordinary skill to make apparatus elements integral. Generally there is no invention in making integral that which was before in several parts, In re Lockhart, 90 USPQ 214. See also In re Larson, 144 USPQ 347.

(11) Response to Argument

Appellants argue that claims 20, 21, 25-28, 33, 34, 36-45, 47-54, 94-96, 98, 99, 101-106 and 108-111 are not anticipated under 35 U.S.C. 102(b) by Rochlis(-583).

Appellants argue that Rochlis(-583) does not disclose every element of the claimed invention, particularly each of the cavities having a single opening, and that Rochlis(-583: col. 3, lines 40-49) requires the mold to have a laminate construction with multiple openings (i.e., openings between the laminate layers in addition to the openings through which mold material enters the cavity), the openings between the laminate layers allowing air or gas from the mold material to escape. The examiner agrees that there are multiple openings: openings between the laminate layers which define vent openings in addition to openings receiving the molding material which define mold cavity openings. Clearly, the vent openings do not perform any shaping function and thus are NOT part of the cavity. Each cavity has a single opening which defines the cavity.

Appellants further traverse the assertion (by the examiner) that the vent openings are not part of the mold cavities. It appears that appellant's arguments are not corresponding to what is actually claimed. Each of the cavities having a single opening does NOT negate the mold from having other non-cavity openings. Again, as mentioned above, the vent openings do not

perform any shaping function and thus are NOT part of the molding cavity. Furthermore, if the vent openings were a part of the mold cavity, then wouldn't the mold material flow into the vent openings to also escape from the mold. Clearly, appellants interpretation of Rochlis(-583) that the mold cavities include the vent openings is incorrect. The vent openings are NOT a part of the cavity.

Appellants argue that there is no disclosure in Rochlis(-583) of mold constructions without openings between the laminate layers. The examiner disagrees. Rochlis(-583: col. 3, lines 40-46) discloses that "most embodiments" permit air or other evolved gas to escape, and Rochlis(-583: col. 13, lines 70-75) discloses that evolved air or gas "may" escape between mating surfaces of the laminated layers. Thus, in the embodiments (in opposition to "most embodiments") where there are no openings to permit air or other evolved gas to escape, each cavity has a single opening.

Appellants argue that Rochlis(-583) does not contain an enabling disclosure. Appellants argue that Rochlis(-583) does not teach how one of skill in the art would make a production tool with even one mold cavity with a single opening or would make a mold or production tool with only a single opening in each cavity. It appears that appellants are arguing that

Rochlis(-583) does not have an enabling disclosure for making a mold or production tool without the vent openings. The examiner agrees that Rochlis(-583) is enabling for a laminated mold construction that includes openings between the mating surfaces of the laminations. However, as mentioned above, in other embodiments of Rochlis(-583), the laminated mold has no openings for gas or air to escape. Thus, Rochlis(-583) is enabling for making a laminated mold or production tool without the vent openings which would define each mold cavity with a single opening. Note that there is a single cavity opening in each cavity of Rochlis(-583).

Appellants argue that claims 17, 20, 21, 25-28, 33-54, 94-96 and 98-111 are not obvious under 35 U.S.C. 103(a) over Rochlis(-583).

Appellants argue that Rochlis(-583) does not teach or suggest how one of ordinary skill in the art would make a production tool with each cavity having a single opening or with a single opening in each cavity. The examiner disagrees as this is discussed at length above. Appellants argue that the Office Action fails to establish a prima facie case of obviousness. However, modifying the production tool of Rochlis(-583) with the alternatives disclosed by Rochlis(-583) has clear motivation

since Rochlis(-583) explicitly discloses that the production tool can be modified with such disclosed alternatives.

Appellants argue that Rochlis(-583) teaches away from the claimed invention in view of the fact that Rochlis(-583) emphasizes the importance of the openings between the mating surfaces of the laminations to allow evolved air or gas to escape. Appellants argue that one of skill would expect that a mold with only a single opening in each cavity would not be functional since the openings between the mating surfaces of the laminations allow evolved air or gas to escape. The examiner disagrees. Rochlis(-583) does NOT disclose that allowing evolved air or gas to escape is CRITICAL or REQUIRED for the apparatus to operate. Furthermore, Rochlis(-583) explicitly discloses that in some embodiments there are no openings in the laminated mold or laminated production tool allowing evolved air or gas to escape, as mentioned above.

Appellants argue that it is impermissible to use hindsight as an obviousness test. It must be recognized that any judgment on obviousness is in a sense necessarily a reconstruction based upon hindsight reasoning. But so long as it takes into account only knowledge which was within the level of ordinary skill at the time the claimed invention was made, and does not include knowledge gleaned only from the appellant's

disclosure, such a reconstruction is proper. See *In re McLaughlin*, 443 F.2d 1392, 170 USPQ 209 (CCPA 1971). Appellants argue that the use of Rochlis(-583) alone in an obviousness rejection can only occur by the impermissible use of hindsight reasoning. The examiner disagrees that a single reference 103 rejection can only occur by hindsight reasoning, and appellants have not given any factual evidence to support such a conclusory statement. Note that the obviousness rejection by the examiner took into account only the knowledge disclosed by Rochlis(-583) and knowledge which was within the level of ordinary skill at the time the claimed invention was made, and does not include knowledge gleaned only from appellant's disclosure.

Appellants do NOT argue the standing provisional rejection of claims 17, 20, 21, 25-28, 33-54, 94-96 and 98-111 under the judicially created doctrine of obviousness-type double patenting as being unpatentable over claims 23, 24, 30-32, 89, 90, 92, 93 and 133-148 of copending Application No. 09/955,604. In the Summary of the Appeal Brief, appellants state that, if patentability of the instant claims is confirmed, appellants will file a Terminal Disclaimer if such rejection is maintained. Note that the Terminal Disclaimer filed on August 23, 2001, Paper No. 15, is directed to U.S. Patent No. 6,129,540, not to copending Application No. 09/955,604.

Note that Appendices II-XII, filed with the original Appeal Brief on April 25, 2002, Paper No. 24, found to be non-compliant by the examiner, only contains copies of papers already entered and considered in the application. Therefore, the examiner requested that Appendices II-XII not be included in the Appeal Brief filed on October 10, 2002, Paper No. 27.

For the above reasons, it is believed that the rejections should be sustained.

Respectfully submitted,

Joseph Leyson

Patent Examiner

jl
January 10, 2003

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